Outfall 002A – TCE Exceedance in April 2016 and Plan of Action

The TCE concentration in the sample from outfall 002A (groundwater infiltration) was 22.5 ppb this month, compared to a permit limit of 5 ppb.

We believe this exceedance was due to the following:

- During the month of April one of the vault transfer pumps had an electrical failure and required replacement. The maximum flowrate achieved from the storm sewer collection system, with one pump in operation, was approximately 27 gpm during the month of April with an average flowrate of approximately 22 gpm. This reduced flowrate, combined with the heavy precipitation this month, resulted in increased length and frequency of events where untreated stormwater bypassed the storm water collection system.

The reasons for this conclusion are as follows:

1. The measured flow for 002A at the time of sampling (4/25 at 1:55 PM) was 120,672 gallons per day (84 gallons per minute). During that time frame, the effluent (002B) flow meter readings averaged 67 gpm. During dry weather conditions, when the storm sewer collection system is designed to collect all flow upstream of it, the flows for 002A and 002B should be equal, and it appears that they were not equal, within the accuracy of the flow measurements. In other words, storm drain flow of approximately 17 gpm appears to have been bypassing the collection system. With both pumps in operation, this would not have been occurring.

2. A sample was collected at CB-88 (just upstream of 002A, but just downstream of the pump chamber and where the treatment plant discharge enters the storm drain system) at the same day and approximate time that the 002A sample and other outfall samples were being collected. TCE was detected at 47.9 ppb which was a greater concentration than 002A indicating that overflow of the baffle was occurring.

The following actions are planned to correct the vault transfer pump problem and to collect more data with respect to bypassing of the storm sewer collection system (also reference attached figure):

1. Replace the defective vault transfer pump in early May and purchase a backup pump to expedite the replacement process in the future.

2. Install a float switch on the downstream side of the retaining baffle in CB-87R. This activity began in March when the float switch was purchased. This month the control wires were pulled; however, in order to finish the installation a confined space entry is necessary. Due to the increased amount of precipitation and the limited pumping capacity due to the defective vault transfer pump during April, this installation has been delayed until May and will be completed when the defective vault transfer pump is replaced. Once installed:

a. This will notify the operator if preventable bypass is occurring, allowing him to act quickly to correct the issue.
b. This will provide valuable information (frequency, seasonal variation, duration, etc.) for better understanding unavoidable bypasses (i.e. during a storm condition, or possibly when dry-weather flow is in excess of the current capacity of the collection and treatment system, as could occur during occasions of snow melt or discharge by others into the storm drain system).

EXISTING GWTP

12"

24"

30"

4"

DMH 83
RIM=122.27
INV.=116.66 (℄)

DMH-83

TO BE ABANDONED IN PLACE AND PLUGGED AT BOTH ENDS

WMH-80

WMH 80
RIM=123.21
INV=117.32 (A)
INV= 117.50 (B)
SUMP=117.55

[NO FLOW] 12"

DMH 600
RIM=121.99
INV.=116.50 (℄)

DMH-600/SMH-G

EXISTING LIGHT POLE

DMH 86
RIM=121.89
INV.=116.52 (℄)

DMH-86

SMH

CB-61

WMH-93

24" HDPE
34LF, S=-0.5%
5 C-09

DMH F
RIM=122.44
INV.=116.26 (A)
INV.=116.10 (B)
INV.=116.10 (C)
SUMP=115.73

12" HDPE
12LF
S=-0.5%
5 C-09

1 C-09 CB-87R DEEP SUMP CATCH BASIN
RIM=121.66
INV.=116.58 (A)
INV.=115.93 (B)
INV.=114.93 (C)
INV.=116.58 (D)
SUMP=110.60

DMH-F

REMOVE PIPE TO CLOSEST JOINT PAST EDGE OF PAVEMENT

PREVIOUSLY ABANDONED 12" PIPE TO BE REMOVED IN EXCAVATION

3" HDPE 5 C-09

4" HDPE 5 C-09

WILLARD ROAD

[NO FLOW] 15"

Retaining baffle

Treatment plant discharge to CB-88. This discharge (002B) is sampled from the effluent tank in the GWTP prior to the treated water entering this line.

CB-88: collect sample here and at 002A

GRIT/PUMP CHAMBER 2 C-09
INV.=114.90 (A)
INV.=118.10 (B)
SUMP = 109.10

SLEEVED 4" PIPE TO CB-88 3 C-09

2 x 2" RIGID STEEL CONDUIT (POWER)
2 x 1.5" RIGID STEEL CONDUIT (CONTROLS)

NOTE: ELECTRICAL CONDUITS AND SPARE HDPE LINES NOT SHOWN FOR CLARITY

RIM=120.70
INV.=115.9 (B)
INV.=117.86 (C)
INV.=117.0 (A)

CB-88

002A sampling location (approx)

Area of likely groundwater infiltration (extends under RR tracks to south where pipe has open bottom)

LEGEND

SMH	SEWER MANHOLE
DMH	DRAIN MANHOLE (STORM)
WMH	WELLPOINT MANHOLE
CB	CATCH BASIN
———	PROPOSED DRAINAGE STRUCTURES
———	EXISTING DRAINAGE STRUCTURES
— — —	EDGE OF PAVEMENT

N

10 0 20
SCALE IN FEET

ISSUED FOR BID

NO	DRWN	DATE	REVISION	CHKD	DATE	APPVD	DATE
7							
6							
5							
4							
3							
2							
1							
0	KKS	05/11/12	ISSUED FOR BID				

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DATE: 07/13/12

DRY WEATHER COLLECTION DRAINAGE PLAN

DRAWING NUMBER: C-03

SHEET NUMBER:

REVISION 0